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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,157	10/18/2006	Gerd Kleideiter	SANZ-278	6959
24972	7590	07/10/2009		
FULBRIGHT & JAWORSKI, LLP			EXAMINER	
666 FIFTH AVE			XU, LING X	
NEW YORK, NY 10103-3198			ART UNIT	PAPER NUMBER
			1794	
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			07/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/589,157

**Applicant(s)**

KLEIDEITER ET AL.

**Examiner**

Ling Xu

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/26/2009 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 25-27 and 29-35 stand rejected under 35 U.S.C. 102(b) as being anticipated by Coustet et al. (WO-2002/048065, its US equivalent, US 2005/0123772, is used as English translation).

Regarding claims 25-27, 29, 33, and 35, Coustet discloses a coated article comprising at least one transparent glass substrate provided with a stack of thin layers having an alternation of n functional layers and of n+1 coatings composed of one or more layers made of a dielectric, so that each functional layer is placed between two coatings. Furthermore, at least one layer absorbent is inserted between two layers of dielectric of at least one of the said coatings. The absorbent layers may be NiCr nitride

(NiCrN) or chromium nitride (CrN) layers (translation page 1, [0017]) (functionally equivalent to the semimetallic layer). The dielectric layers may be silicon nitride layers (page 2, [0019]-[0020]).

Coustet also discloses that at least one layer of an oxide (functional equivalent to the claimed dielectric oxide layer) of tin oxide, titanium oxide, silicon oxide, niobium oxide which is between the absorbing layer and the dielectric layer (translation page 2, [0023]).

It should be noted that claims 25-35 recite "a coating for a substrate comprising a transparent Si<sub>3</sub>N<sub>4</sub> or SiN<sub>x</sub> layer directly on the substrate." The claimed subject matter is a coating. The recitation of "for a substrate" places no positive limitations on the claimed coating it merely indicates the intended use of the coating. The claimed coating does not include the substrate as part of its structure.

Regarding claims 30-32, Coustet discloses that the thickness of silicon nitride is 21.5-31 nm and the thickness of dielectric oxide is 10 nm (translation page 3, [0043]). The absorbing layer has a thickness of less than or equal to 7nm (translation page 2, [0018]),

Regarding claim 34, Coustet discloses that the substrate can be a synthetic material (translation page 2, [0030]).

***Claim Rejections - 35 USC § 103***

3. Claim 28 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Coustet et al. as applied to claim 25 above, and further in view of Lingle et al. (US 2002/0064662).

As stated above, Coustet disclose the substrate coating structure comprising the same structure as recited in claim 25.

Coustet does not disclose that the substrate coating comprising a  $\text{SiN}_x$  layer with  $x$  smaller than  $4/3$  as recited in claim 28.

Lingle teaches that a non-stoichiometric  $\text{Si}_x\text{N}_y$  layer can be used as a dielectric layer in a coated article to reduce haze and/or improve mechanical durability (page 4, [0075]). The ratio of  $x/y$  may be from about 0.85 to 1.2.

Accordingly, it would have been obvious to one of ordinary skill in the art to use non-stoichiometric silicon nitride as the dielectric layer in Coustet's coated article in order to reduce haze and/or improve mechanical durability of the coated article.

### ***Response to Arguments***

4. Applicant's arguments filed 6/26/2009 have been fully considered but they are not persuasive.

Applicant argues that Coustet (US 2005/0123772) fails to disclose a coating comprising the following: Substrate -layer of  $\text{Si}_3\text{N}_4$  or  $\text{SiN}_x$ -semimetallic layer -oxide layer -layer of  $\text{Si}_3\text{N}_4$ . The coating of Coustet does not include a semimetallic layer on a  $\text{Si}_3\text{N}_4$  layer, where the  $\text{Si}_3\text{N}_4$  layer which is disposed on a substrate. All coatings in Coustet comprise a layer system of  $\text{Si}_3\text{N}_4$  ZnO-Ag-Ti-ZnO. This system can be

disposed directly on a substrate or an absorbent layer (paragraph [0061]) or a layer of TiN (i.e. a semimetallic layer, paragraph [0043]). As can be seen from the table of paragraph [0043] of Coustet, the semimetallic layer of TiN is encompassed by layers of Si<sub>3</sub>N<sub>4</sub> but not by a layer of Si<sub>3</sub>N<sub>4</sub> and an oxide layer. Because Coustet does not disclose that an oxide layer should be provided on a semimetallic layer, Coustet does not disclose all features of claim 25. The subject of claim 25 is thus novel over Coustet.

As stated above and in the prior Office action, Coustet discloses a coated article comprising at least one absorbent layer inserted between two layers of dielectric of at least one of the coatings (page 1, [0013]). The absorbent layers may be titanium nitride (TiN), NiCr nitride (NiCrN), or chromium nitride (CrN) layers (translation page 1, [0017]) (functionally equivalent to the semimetallic layer). The dielectric layers may be silicon nitride layers (page 2, [0019]-[0020]). Coustet also discloses that at least one layer of an oxide of Zinc oxide, tin oxide, titanium oxide, silicon oxide, niobium oxide is between the absorbing layer and the dielectric layer (translation page 2, [0022]-[0023]).

Accordingly, Coustet discloses a layered structure of:

silicon nitride layer / oxide layer (e.g. tin oxide, titanium oxide, silicon oxide, niobium oxide)/absorbent layer (e.g. CrN or NiCrN) ("semimetallic layer") / silicon nitride layer/substrate. Accordingly, the layered structure anticipates the layered structure as claimed in the present application.

It should be noted that the term "comprising" recited in claim 25 means that the coating can include other layers within the layered structure such as an Ag layer, a metal layer, and/or other layers.

Coustet discloses several layered structures, including the layered structure as stated above, which anticipate the layered structure recited in claim 25, and the layered structures described in the Tables and Examples, as indicated in Applicant's argument, that do not anticipate the layered structure recited in claims 25.

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. See MPEP 2123. "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In *re Susi*, 440 F.2d 442, 169 USPQ423 (CCPA 1971).

As stated above, in a much broader disclosure, Coustet discloses the coating comprising the same layered structure as claimed. Accordingly, Coustet meets the limitations recited in claim 25.

Applicant also argues that the subject matter of the claims is not obvious to a person skilled in the art in view of Coustet.

Applicant's argument is not responsive to the rejection based on Coustet since the rejection is an anticipation rejection based on 35 USC 102 (b) not an obviousness rejection based on 35 USC 103(a).

### ***Conclusion***

5. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the

grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling Xu whose telephone number is 571-272-7414. The examiner can normally be reached on 8:00 am- 4:30 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ling Xu  
Primary Examiner  
Art Unit 1794

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Lx  
July 7, 2009